



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/286,794

04/06/1999

MARK E. BAER

28076/SV703A

5439

7590

08/26/2004

MARSHALL O'TOOLE GERSTEIN MURRAY & BORUN  
6300 SEARS TOWER  
233 SOUTH WACKER DR  
CHICAGO, IL 606066402

EXAMINER

BLOUNT, STEVEN

ART UNIT

PAPER NUMBER

2661

29

DATE MAILED: 08/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/286,794

Applicant(s)

BAER ET AL.

Examiner

Steven Blount

Art Unit

2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 50 - 56, 58 - 67 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 58 - 59, and 61 - 67 is/are allowed.
- 6) ☒ Claim(s) 50 - 53, 55 - 56, and 60 is/are rejected.
- 7) ☒ Claim(s) 54 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Drawings***

1. The drawings were received on 5/27/04. These drawings are approved.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 3,037,455 to Bozimowski et al.

With regard to claim 50, Bozimowski et al teaches providing motor shaft 23 with a non-circular (hexagonal) cross section at first end 38 in figure 5 wherein a fan impeller 16 is installed onto the motor shaft proximate the first end of the motor shaft, as shown in figure 2. Bozimowski et al also teaches engaging shaft extension 27 with the first end of the motor shaft. See figure 2 and col 2, lines 64+. As shown in figure 2, this shaft extension is installed into a lower assembly, including the vanes 25. The examiner notes that the phrase "engaging a shaft extension comprising a first end having a second surface geometry comprising a non-circular cross section" in lines 8 – 9 of claim 1 may be interpreted such that it would be obvious to one of ordinary skill in the art that the nut 37 overlying the hexagonal shaft shown in figure 4 may be considered to be comprised of part of the shaft extension 27 as shown in figure 2.

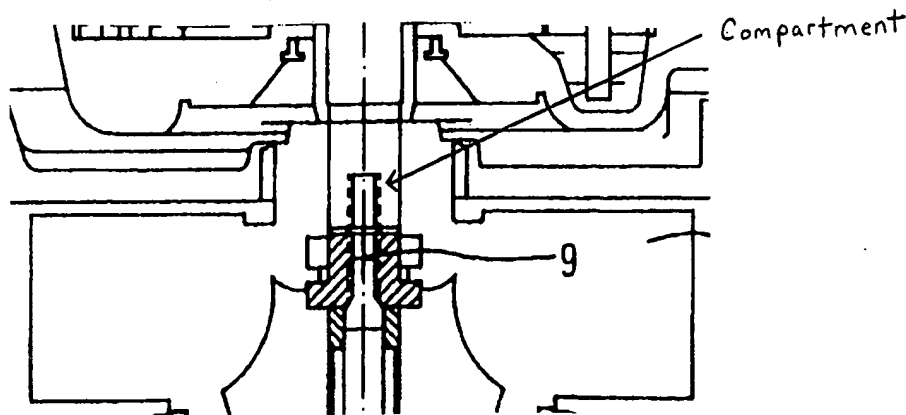
4. Claim 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 3,037,455 to Bozimowski et al as applied above, and further in view of U.S. either one of the following patents: 1) 5,195,880 to Gruber, or 2) U.S. patent 2,973,214 to Bates et al.

Bozimowski et al teaches the invention as described above, but does not teach the square cross-sectional members as claimed. These are taught in both Gruber and Bates et al. See the illustrations on the front of the patents.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the interface between the motor shaft 38 and member 37 of Bozimowski et al in view of the teachings of either Gruber or Bates et al, in order to provide a more rigid connection.

5. Claim 60 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. patent 5,141,392 to Uvemo.

With regard to claim 60, Uvemo teaches in figure 1 a motor shaft 3 having a first end with a compartment which is indicated as shown below:



Note the dark square members shown within the compartment, of which it is standard form in the art for these to signify the presence of threads, thus giving rise to a non-circular (helical) interface between the motor shaft and shaft extension. Uvemo also teaches fan impeller 4 installed onto the motor shaft proximate the first end of the shaft as shown in figure 1, and shaft extension 6, with lower assembly 5 coupled to the shaft extension.

6. Claims 52, 53, 55, and 56 are rejected under 35 U.S.C. 103(a) as being obvious over U.S. patent 5,141,392 to Uvemo as applied above, and further in view of U.S. patent 3,037,455 to Bozimowski et al.

With regard to claim 52, Uvemo teaches the invention as described above, but does not teach the first end of the motor shaft to have a hexagonal cross section. A hexagonally shaped join between a motor shaft and a shaft extension 37/38 is taught in figure 4 of Bozimowski et al. It would have been obvious to one of ordinary skill in the art at the time of the invention to have made the join between the motor shaft and shaft extension of Uzemo of a hexagonal shape in light of the teachings of Bozimowski et al in order to provide a secure fit between these two members.

With regard to claim 53, member 9 is a retainer that is tightened onto the first end of the motor shaft and abuts with the fan impeller, as shown in figure 1.

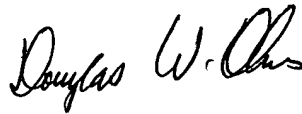
With regard to claim 55, note that member 55 is an impeller.

With regard to claim 56, note the bearing (the disk shaped member) in figure 1 located at the distal end of the shaft extension, adjacent the bottom of blades 5.

Art Unit: 2661

7. Claims 54 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form to include the limitations of the base claim and any intervening claims. Claims 58 – 59, and 61 – 67 are allowed.

8. Examiner Steven Blount may be reached at 703-305-0319 Monday through Friday between the hours of 9:00 and 5:30.



DOUGLAS OLMS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600

SB



8/9/04